

## **CLAIMS**

What is claimed is:

1. A method for identifying one of a plurality of communication  
5 channels for communication with one of a plurality of devices, the method  
comprising:  
monitoring each of the plurality of communication channels for one  
or more link pulses for one of the devices; and  
establishing a connection to the device with the communication  
10 channel monitored to have the link pulses.
2. The method as set forth in claim 1 wherein the monitoring further  
comprises monitoring one of the plurality of communication channels at a time for  
the one or more link pulses.  
15
3. The method as set forth in claim 2 wherein the monitoring further  
comprises disabling the other of the plurality of communication channels while the  
one of the plurality of communication channels is monitored for the one or more  
link pulses.  
20
4. The method as set forth in claim 2 wherein the monitoring one of  
the plurality of communication channels is conducted by two or more of the  
devices.
- 25 5. The method as set forth in claim 4 further comprising blocking the  
communication channel monitored to have the link pulses for the one device from  
the other devices.
6. The method as set forth in claim 1 further comprising providing an  
30 indication of which of the plurality of communication channels was the  
established communication channel for the device.

7. A computer readable medium having stored therein instructions for providing network access, which when executed by one or more processors, causes the processors to perform:

monitoring each of the plurality of communication channels for one or more link pulses for one of the devices; and  
establishing a connection to the device with the communication channel monitored to have the link pulses.

8. The computer readable medium as set forth in claim 7 wherein the monitoring further comprises monitoring one of the plurality of communication channels at a time for the one or more link pulses.

9. The computer readable medium as set forth in claim 8 wherein the monitoring further comprises disabling the other of the plurality of communication channels while the one of the plurality of communication channels is monitored for the one or more link pulses.

10. The computer readable medium as set forth in claim 8 wherein the monitoring one of the plurality of communication channels is conducted by two or more of the devices.

11. The computer readable medium as set forth in claim 10 further comprising blocking the communication channel monitored to have the link pulses for the one device from the other devices.

12. The computer readable medium as set forth in claim 7 further comprising providing an indication of which of the plurality of communication channels was the established communication channel for the device.

13. A system for identifying one of a plurality of communication channels for communication with one of a plurality of devices, the system comprising:

a monitoring system that monitors each of the plurality of communication channels for one or more link pulses for one of the devices; and  
a controller that establishes a connection to the device with the communication channel monitored to have the link pulses.

5

14. The system as set forth in claim 13 wherein the monitoring system monitors one of the plurality of communication channels at a time for the one or more link pulses.

10

15. The system as set forth in claim 14 wherein the monitoring system disables the other of the plurality of communication channels while the one of the plurality of communication channels is monitored for the one or more link pulses.

15

16. The system as set forth in claim 13 wherein each of the devices has one of the monitoring systems.

20

17. The system as set forth in claim 16 further comprising a blocking system that blocks the communication channel monitored to have the link pulses for the one device from the other devices.

25

18. The system as set forth in claim 13 further comprising an indicator that indicates of which of the plurality of communication channels was the established communication channel for the device.

30

19. A method for coupling a plurality of devices together to a base unit, the method comprising:  
providing a first plurality of substantially identical interface units, each of the interface units having a plurality of connectors; and  
coupling at least one of connector n in the plurality of connectors in one of the first plurality of interface units to a connector n+1 in the plurality of connectors in the interface unit in the first plurality of interface units which is immediately preceding and coupled closer to the base unit.

20. The method as set forth in claim 19 further comprising coupling a first connector in the plurality of connectors in each of the interface units to one of the devices.

5

21. The method as set forth in claim 19 further comprising coupling one or more of the plurality of connectors in one of the first plurality of interface units to the base unit.

10

22. The method as set forth in claim 19 further comprising:  
providing a sub-base unit with one or more connectors; and  
coupling at least one connector  $n$  in the one or more connectors in the sub-base unit to a connector  $n+1$  in the plurality of connectors in the interface unit in the first plurality of interface units which is immediately preceding and coupled closer to the base unit.

15

23. The method as set forth in claim 19 further comprising:  
providing a second plurality of substantially identical interface units, each of the second plurality of interface units having a plurality of connectors; and

20

coupling at least one of connector  $n$  in the plurality of connectors in one of the second plurality of interface units to a connector  $n+1$  in the plurality of connectors in the interface unit in the second plurality of interface units which is immediately preceding and coupled closer to the sub-base unit.

25

24. The method as set forth in claim 23 wherein one or more of the plurality of connectors in one of the second plurality of interface units are coupled to the sub-base unit.

30

25. A bus system for coupling a plurality of devices together to a base unit, the bus system comprising:

a first plurality of substantially identical interface units, each of the first plurality of interface units having a plurality of connectors;

at least one of connector n in the plurality of connectors in one of the first plurality of interface units is coupled to a connector n+1 in the plurality of connectors in the interface unit in the first plurality of interface units which is immediately preceding and coupled closer to the base unit.

26. The bus system as set forth in claim 25 wherein a first connector in the plurality of connectors in each of the interface units is coupled to one of the devices.

27. The bus system as set forth in claim 25 wherein one or more of the plurality of connectors in one of the first plurality of interface units are coupled to the base unit.

28. The bus system as set forth in claim 25 further comprising:  
a sub-base unit with one or more connectors; and  
at least one connector n in the one or more connectors in the sub-base unit is coupled to a connector n+1 in the plurality of connectors in the interface unit in the first plurality of interface units which is immediately preceding and coupled closer to the base unit.

29. The bus system as set forth in claim 25 further comprising:  
a second plurality of substantially identical interface units, each of the second plurality of interface units having a plurality of connectors; and  
at least one of connector n in the plurality of connectors in one of the second plurality of interface units is coupled to a connector n+1 in the plurality of connectors in the interface unit in the second plurality of interface units which is immediately preceding and coupled closer to the sub-base unit.

30. The bus system as set forth in claim 29 wherein one or more of the plurality of connectors in one of the second plurality of interface units are coupled to the sub-base unit.

40 30 20 10 0